Jan. 13, 1942. A. H. MERROW 2,269,913

CURLING IRON HEATER

Filed March 4, 1941 2 Sheets-Sheet 1

Fig. 1.

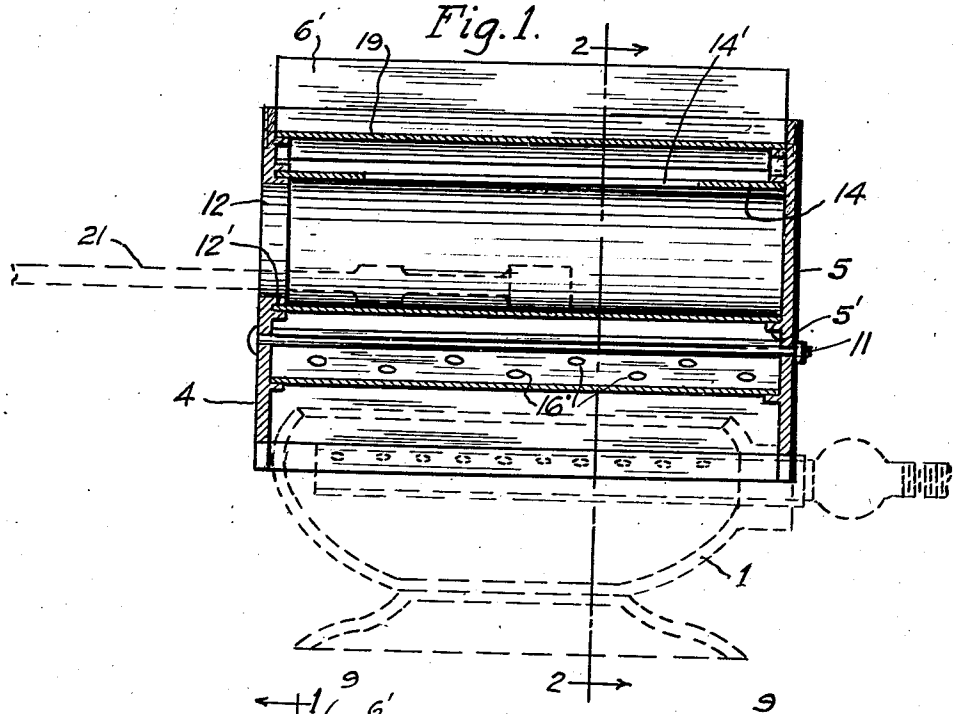



Fig. 2.

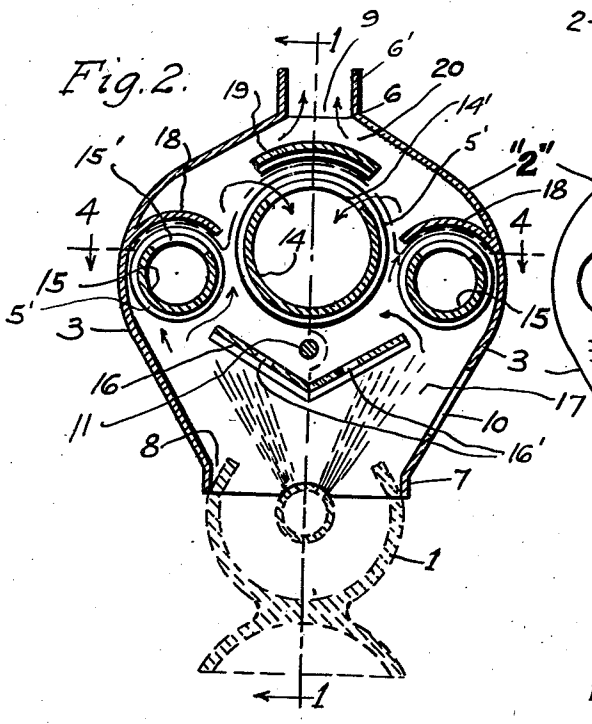
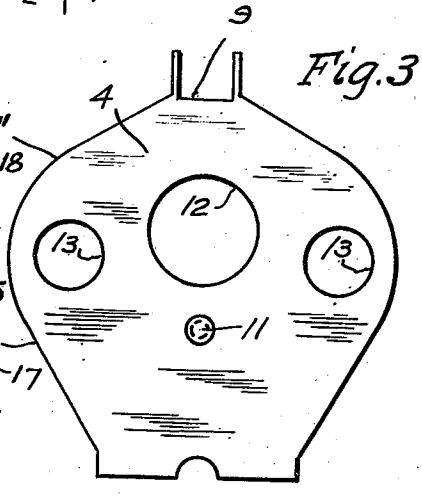



Fig. 3




INVENTOR.
Al H. Merrow
BY
Watson & Coleman
ATTORNEY.

Jan. 13, 1942. A. H. MERROW 2,269,913

CURLING IRON HEATER

Filed March 4, 1941 2 Sheets-Sheet 2

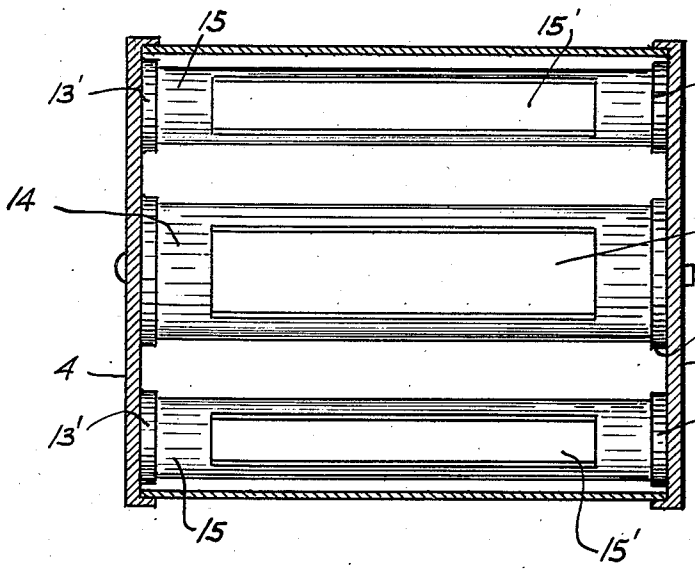
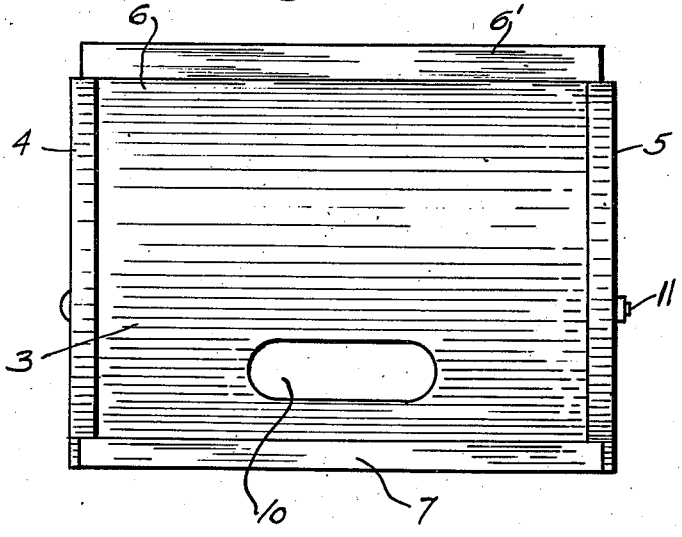



Fig. 4.

Fig. 5.



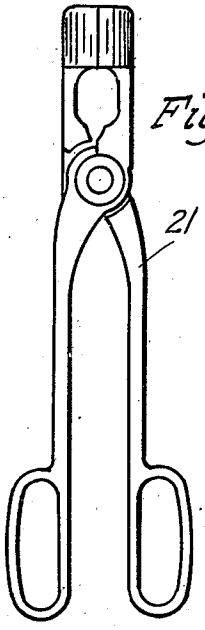




Fig. 6.

INVENTOR.
Al H. Merrow
BY
Watson E. Coleman.
ATTORNEY.

Patented Jan. 13, 1942 2,269,913

# UNITED STATES PATENT OFFICE

2,269,913

## CURLING IRON HEATER

Al H. Merrow, Denver, Colo.

Application March 4, 1941, Serial No. 381,731

4 Claims. (Cl. 126—229)

This invention relates generally to the class of toilet and pertains more particularly to devices to be used by hairdressers for the heating of irons employed in curling the hair.

In the art of hairdressing, there are used devices for heating or baking the hair after the same has been wrapped around or curled around a forming body and it is desirable in order that a proper heating of the curl be obtained, that the heat applying iron be evenly heated.

The present invention has for its primary object, in view of the foregoing, to provide a means for circulating heat around a clamping iron such as is used in connection with the curling of the hair so that such iron may be evenly heated and as a result, when it is placed on or clamped on the curl, the curl will be evenly baked.

Another object of the invention is to provide a heating device for hairdressers' curling irons in which tubular compartments are provided to receive the irons and a novel means is employed for circulating heat from a suitable type of burner unit, around such compartments so that the entire compartment and the iron located therein will be evenly and thoroughly heated.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings, it being understood, however, that the invention is not to be considered as limited by the specific illustration or description but that such illustration and description constitutes a preferred embodiment of the invention.

In the drawings:

Fig. 1 is a view in vertical longitudinal section taken substantially on the line 1—1 of Fig. 2, through the heat circulator of the present invention, the heating unit or stove upon which the same is placed being in broken outline.

Fig. 2 is a vertical transverse section taken on the line 2—2 of Fig. 1.

Fig. 3 is a view in elevation of the front end of the device.

Fig. 4 is a horizontal section taken substantially on the line 4—4 of Fig. 2.

Fig. 5 is a view in elevation of one side of the circulator.

Fig. 6 is a view in plan of a pair of heating irons or tongs for the heating of which the present device is provided.

Referring now more particularly to the drawings, the numeral 1 designates generally any suitable type of heating device or stove in association with which the heat circulator embodying the present invention may be used, such circulator being indicated generally by the numeral 2. The stove 1 may be of the gas burning variety or of any other suitable form having a properly formed top on which the heat circulator 2 may be placed.

The device 2 comprises an elongated hollow structure having side walls 3 and front and rear end walls 4 and 5, respectively. The side walls 3 are bowed outwardly through the major portion of their height as shown, being brought into relatively close side by side relation at the top of the device, as indicated at 6, and continued upwardly into the vertical top edge flanges 6' which are in spaced relation as shown. The lower portions of the side walls converge as shown, at their lower edges and terminate in the short straight downwardly directed flanges 7, which are joined at their ends to the lower ends of the end walls to form a bottom supporting frame adapted to rest upon the top of the heating element 1. There is thus provided at the bottom of the casing the hot air inlet 8 while the spaced top flanges 6' provide a top heated air outlet 9.

In the lower part of one side wall 3 of the body is an air admission opening 10 and there extends lengthwise of and through the body, a tie rod or bolt 11, which couples the front and rear walls together.

In the front wall 4 there are formed a plurality of openings here illustrated as being three in number and comprising a central opening 12, and the two side and smaller openings 13. Each of these openings is defined upon the inner side of the wall, by a pair of concentric collars, which collars for the opening 12 are indicated by the numeral 12', while those for the opening 13 are indicated by the numeral 13'. Extending rearwardly from the front wall 4 coaxially with the central opening 12 is a tube 14 which at its forward end is engaged between and secured to the collars 12', while at its rear end it is in abutment with the rear wall 5 and alined with each of the openings 13 is a smaller tube 15 which is secured to the front wall by engagement between the collars 13' and which extends rearwardly to the back wall 5. The tubes 14 and 15 are provided with longitudinal openings 14' and 15', respectively, which are directed upwardly as is most clearly shown in Fig. 2. The tubes are secured at their rear ends to and are closed by the rear wall 5 by suitable means such as the collars 5'.

Extending lengthwise within the heat circulator housing or body and secured at its ends to the front and rear walls, below the tubes, is

a heat deflector or baffle 16 of substantially V-cross sectional form, the longitudinal edges of which are spaced from the side walls 3, as shown in Fig. 2, to provide the upwardly directed hot air passages 17 which run the full length of the housing body. This baffle 16 is preferably provided with a plurality of apertures 16' by which some of the heated air is permitted to pass directly upwardly through the baffle instead of being caused to flow through the side passages 17.

Extending along the inner sides of the walls 3 are the transversely arcuate heated air deflectors 18, each of which is secured along one longitudinal edge to the adjacent wall and curves over the slotted portion of and is spaced from the adjacent tube 15, the concave side of the deflector being directed downwardly. This provides for the deflection or curling of the hot air which passes up through the passages 17, around and over the tubes 15, to cause the air to reverse its flow and pass downwardly between the tubes 15 and the center tube 12, according to the arrows, and also causes some of the heated air to be directed downwardly into the tube 15 through the slot 15' thereof. The downwardly directed inner edges of the curved deflectors 18 are arranged in vertical planes passing substantially midway between the adjacent tubes 15 and the center tube 14 and the curvature of each deflector may be substantially the same as the curvature of the underlying tube 15. As a result, it will be readily apparent that the heated air follows substantially a circular path from the time it passes through each opening 17 until it passes downwardly between the tubes 14 and 15. This action is brought about by reason of the formation of the wall 3 curvature to substantially accord with the curvature of the deflector 18 attached thereto.

Extending lengthwise through the heat circulator housing and lying above the central tube 14 over the opening 14' thereof is a transversely curved or arcuate top baffle 19, the longitudinal edges of which lie above the free longitudinal edges of the downwardly curved baffles or deflectors 18. The concave side of the top baffle 19 is directed downwardly so that the top or convex side coacts with the adjacent walls 3, providing the narrow heated air outlet passages 20 leading to the relatively narrow top outlet 9.

From the foregoing, it will be readily apparent that with the baffle arrangement illustrated, the heated air rising through the circulator housing is caused to follow a tortuous path of substantially ogee curvature so that all of the tubular chambers in which the hair treating irons are placed to be heated will be substantially enveloped in the hot gases and consequently, an even heating of the irons will be obtained. By the provision of the relatively narrow top heated air outlet 9 together with the arrangement of the deflectors, it will be readily apparent that the passage of the heated air through the device will be rather slow so that the heating of the tubular chambers in which the irons are located will be accomplished rapidly and also when cold irons are placed therein, they will be quickly as well as evenly heated.

While any type of iron may be heated in the present heat circulator, the type for which the device is particularly designed is shown in Fig. 6 and indicated generally by the numeral 21. This type of iron is employed for baking the hair to form a curl, by clamping the iron onto the hair which is wrapped or wound about a supporting body. In order that the hair may be evenly baked or heated while on such a body, it is essential that the iron be thoroughly and evenly heated and such thorough and even heating is accomplished in the best manner and most rapidly by means of the present heated air circulating device.

What is claimed is:

1. A hot air circulator for heating hair curling irons and the like, comprising an elongated hollow body having a longitudinally extending heated air admission bottom opening and a longitudinally extending heated air exhaust top opening, said top opening being of materially less width than the bottom opening, a plurality of tubular chambers extending lengthwise through the body and each opening at one end through an end wall of the body, upper and lower baffle walls extending lengthwise through the body with said chambers located in an intermediate plane with respect thereto, said baffles being spaced at their longitudinal edges from the side walls of the body, and downwardly curving hot air deflectors extending lengthwise through the body between the upper baffle and said plane and each secured along its outer edge to a side wall of the casing and functioning to cause a reversed flow of heated air rising from beneath the lower baffle to direct the air around an adjacent chamber towards the center of the casing.

2. A hot air circulator, comprising an elongated hollow casing having a relatively wide bottom hot air inlet opening and a relatively narrow top hot air outlet opening, the openings extending lengthwise of the casing, a plurality of tubes extending longitudinally through the casing and each opening at one end only through an end wall of the casing, said tubes being disposed in a common horizontal plane, a relatively wide baffle plate extending lengthwise of the casing beneath said plane and having two portions extending upwardly and outwardly from the vertical center of the casing and terminating at their outer edges in spaced relation with the side walls of the casing, an upper baffle extending lengthwise through the casing above said plane and directly beneath the outlet opening and having its longitudinal edges in spaced relation with the walls of the casing, one of said tubes being between said baffles and a pair of intermediate hot air deflectors extending lengthwise through the casing at each side thereof and above a tube and secured along one longitudinal edge to the adjacent side wall of the casing, said intermediate deflectors being curved transversely to reverse the direction of flow of heated air rising from the longitudinal edges of the first baffle to circulate such air around the underlying tube and direct the heated air toward the center of the casing and around the said one tube which lies between said baffles.

3. A hot air circulator, comprising an elongated hollow casing having a relatively wide bottom hot air inlet opening and a relatively narrow top hot air outlet opening, the openings extending lengthwise of the casing, a plurality of tubes extending longitudinally through the casing and each opening at one end only through an end wall of the casing, said tubes being disposed in a common horizontal plane, a relatively wide baffle plate extending lengthwise of the casing beneath said plane and having two portions extending upwardly and outwardly from the vertical center of the casing and terminating at their outer edges in spaced relation with the side walls of the casing, an upper baffle extending length-

wise through the casing above said plane and directly beneath the outlet opening and having its longitudinal edges in spaced relation with the walls of the casing, one of said tubes being between said baffles said casing side walls being of outwardly curving cross-section, and a pair of intermediate hot air deflectors extending lengthwise through the casing and disposed in a plane between the tubular bodies and the top baffle, each of said intermediate deflectors being of transversely arcuate form and secured along a longitudinal edge to the adjacent casing wall and forming a continuation of the curvature of the wall whereby to provide a substantially circular heated air passageway around an underlying tube, the outlet of which passageway is directed downwardly and toward the central part of the casing to direct the heated air to the under side of the said one tube which lies between said baffles.

4. A hot air circulator, comprising an elongated hollow casing having a relatively wide bottom hot air inlet opening and a relatively narrow top hot air outlet opening, the openings extending lengthwise of the casing, a plurality of tubes extending longitudinally through the casing and each opening at one end only through an end wall of the casing, said tubes being disposed in a common horizontal plane, a relatively wide baffle plate extending lengthwise of the casing beneath said plane and having two portions extending upwardly and outwardly from the vertical center of the casing and terminating at their outer edges in spaced relation with the side walls of the casing, an upper baffle extending lengthwise through the casing above said plane and directly beneath the outlet opening and having its longitudinal edges in spaced relation with the walls of the casing, one of said tubes being between said baffles and a pair of intermediate hot air deflectors extending lengthwise through the casing at each side thereof and above a tube and secured along one longitudinal edge to the adjacent side wall of the casing, said intermediate deflectors being curved transversely to reverse the direction of flow of heated air rising from the longitudinal edges of the first baffle to circulate such air around the underlying tube and directed toward the center of the casing and around a central tube, each of said tubes having a longitudinally extending opening through the top side thereof.

AL H. MERROW.